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10/697,325	10/31/2003	Takahiro Fukuhara	244695US6X	8519

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
KRASNIC, BERNARD	

ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/697,325	FUKUHARA ET AL.	
	Examiner	Art Unit	
	Bernard Krasnic	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7,10,13-15 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,10,13-15 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The Request for Continued Examination filed 9/17/2007 have been entered and made of record.

2. The application has pending claims 1-3, 7, 10, 13-15, and 18.

3. Applicant's arguments with respect to claims 1-3, 7, 10, 13-15, and 18 have been considered but are moot in view of the new ground(s) of rejection because of the Request for Continued Examination (RCE).

4. Applicant's arguments filed 9/17/2007 have been fully considered but they are not persuasive.

The Applicant alleges, "In view of the outstanding ..." in page 6, "More specifically, Figure 9 shows ..." in page 6, "Briefly recapitulating, amended Claim 1 is directed ..." in page 7, and "In a non-limiting example, Figure 9 shows the header ..." in page 7, and states respectively that the amendment to the pending claims is supported in a non-limiting example to Figure 9 where the inspection symbols are removed from the headers of some layers (layer 0 and 1) and placed in the different layer N. The Examiner with respect to the current claim amendments agrees with the Applicants explanation that Figure 9 does give support toward the amendment.

The Applicant alleges, "Turning to the applied art ..." in page 7, "ISO/IEC discloses an image compression system ..." in page 7, and "In this respect, ISO/IEC

shows in Figure A-2 ..." in page 8, *and states respectively that the prior art reference ISO/IEC does not suggest that marker(s) segments which represent the inspection symbols are removed from the corresponding header or tile-part headers and placed in a different tile-part header as required by the amended claims 1, 10, 13, and 18.* However the Examiner disagrees because the prior art reference ISO/IEC does suggest such a feature. The prior art reference ISO/IEC teaches that a PPM (Packed Packet Headers) function may be used where the PPM implements the packet headers for the different packets [the packet headers consist of the different markers] to be relocated to the main header or to be relocated to the first tile-part header from being located in-front of their corresponding packet (see ISO/IEC, page 61, Section B.9-Packet header information coding, the different packet headers which consist of the different markers representing the inspection symbols are relocated from being in-front of their corresponding packet to being located to the main header or the first tile-part header). Therefore, the amended independent claims 1, 10, 13, and 18 are still not patentably distinguishable over the prior art reference ISO/IEC. Consequently, claims 1-3, 7, 10, 13-15, and 18 are still not in condition for allowance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 10, 13-15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Information Technology – JPEG 2000 Image Coding System (ISO/IEC JTC 1/SC 29/WG 1 N1646R, from this point forward shall be referred to as ISO/IEC, as applied in previous Office Action).

Re Claim 1: ISO/IEC discloses a picture encoding apparatus (see page 8, section 6.1, JPEG 2000 system for encoding) comprising arithmetic encoding means (see Annex C, arithmetic entropy coding) for applying arithmetic encoding to an input picture (page 8, section 6.1) to generate an encoded codestream; splitting means (see section F.1.2.1 high and low pass filters, sections B.4 - B.5, tiles, levels or layers are associated with sub-bands) for splitting said encoded codestream into a plurality of layers / tiles, layers or sub-bands; packet generating means (see sections B.8) for generating a plurality of packets from one layer / tile, level or sub-band to another; error correction encoding means (see page 13, section A.1.2, error resilience, section A.9, informational markers) for applying error correction encoding (section A.9, informational markers) to data of a header or a packet or packets of a predetermined number of layers / tiles, levels, or sub-bands (see page 18, Fig. A-2, "required at each tile-part header"); and embedding means (see page 13, section A.1.2, types of markers and marker segments) for embedding respective inspection symbols / markers, of the header or the packet or packets of the predetermined number of layers, generated by said error correction encoding means (see page 13, section A.1.2, error resilience, section A.9, informational markers) in a predetermined packet or packets of at least a layer different from the predetermined number of layers (see page 61, Section B.9, a PPM [Packed Packet

Headers] function may be used where the PPM implements the packet headers for the different packets [the packet headers consist of the different markers] to be relocated to the main header or to be relocated to the first tile-part header from being located in-front of their corresponding packet [the different packet headers which consist of the different markers representing the inspection symbols are relocated from being in-front of their corresponding packet to being located to the main header or the first tile-part header], this is very similar to the Applicants example in Figure 9 [see Applicants argument filed on 9/17/2007 in pages 6-7] where the inspection symbols are relocated).

The limitations, as recited in claim 1, lines 2, 4, 6, 8, and 10, "arithmetic encoding means", "splitting means", "packet generating means", "error correction encoding means", and "embedding means", invoke 35 USC 112, 6th paragraph.

As to claim 10, the claim is the corresponding method claim to claim 1 respectively. The discussions are addressed with respect to claim 1.

Re Claim 2: ISO/IEC further discloses predetermined number of layers / tiles, levels, or sub-bands includes at least an uppermost layer / tile, level, or sub-band (see page 18, Fig. A-2, "required at each tile-part header" shows that an upper layer is an inherent layer for error correction encoding by use of markers).

Re Claim 3: ISO/IEC further discloses wherein said embedding means substitutes (see section B.9.3, zero length packet, zero substitutes for no code-blocks) said inspection

symbol / marker for either data of said packet or packets of a lower layer (see page 18, Fig. A-2, "required at each tile-part header" shows that a lower layer is an inherent layer for which a symbol or marker will be embedded), a main header or a COM marker of a tile part header (see page 61, Section B.9, page 18, Fig. A-2, "required at each tile-part header", page 13, section A.1.2, section A.9), or a portion of a predetermined code block (see page 18, Fig. A-2, "required at each tile-part header", page 13, section A.1.2, section A.9) or a newly added encoding pass.

The limitation, as recited in claim 3, "embedding means", invokes 35 USC 112, 6th paragraph.

Re Claims 13: ISO/IEC discloses a picture decoding apparatus (see page 8, section 6.1, JPEG 2000 system for decoding), supplied with claim 1's respective encoded codestream (see above), and decoding the input encoded codestream to restore an input picture (see page 8, section 6.1, JPEG 2000 system for decoding), said apparatus comprising analysis means / means of specified procedures for analyzing said input encoded codestream (see page 8, section 6.1, JPEG 2000 system for decoding); extraction means for extracting said respective inspection symbols from said predetermined packet or packets (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the extraction limitation is an inherent feature with respect to being the opposite of the embedding limitation of the encoder, page 18, Fig. A-2); error correcting decoding means for applying error correction and decoding to data

of the header or a packet or packets of the number of preset layers, using said respective inspection symbols extracted from the layer different from the preset layers (see page 61, Section B.9, page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the error correcting decoding means is an inherent feature with respect to being the opposite of the embedding a symbol using error correcting encoding); and decoding means for decoding the encoded codestream following the error correction and decoding (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the decoding means is an inherent feature with respect to being the opposite of the encoding before using the error correcting encoding limitation).

The limitations, as recited in claim 13, "analysis means", "extraction means", "error correcting decoding means", and "decoding means", invoke 35 USC 112, 6th paragraph.

As to claim 18, the claim is the corresponding method claim to claim 13 respectively. The discussions are addressed with respect to claim 13.

Re Claims 14: ISO/IEC further discloses (see sections B.9 and B.9.1) said different layer at least includes a lowermost layer (see page 18, Fig. A-2, "required at each tile-part header" shows that a lower layer is an inherent layer).

As to claim 15, it differs from claim 3 in that claim 3 is for an encoder and claim 15 is for a decoder (see page 8, section 6.1, "by means of procedures generates as output digital reconstructed image data", the production of a correct reconstructed image data shows that the extracting means is an inherent feature with respect to being the opposite of the embedding means limitation). Other than this, claim 15 is analyzed in the same manner as claim 3.

The limitation, as recited in claim 15, "extraction means", invokes 35 USC 112, 6th paragraph.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over ISO/IEC in view of Christopoulos (IEEE vol. 46, pages 1103-1127, 2000, "The JPEG2000 Still Image Coding System: An Overview", as applied in previous Office Action). The teachings of ISO/IEC have been discussed above.

However, ISO/IEC fails to disclose or fairly suggest error correction encoding means sets the subject entity of the error correction encoding depending on an error rate of a communication channel on which said encoded codestream is transmitted.

Christopoulos discloses said error correction encoding means sets the subject entity of the error correction encoding depending on an error rate of a communication channel on which said encoded codestream is transmitted (see page 1118, section IV.5, Error Resilience).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify ISO/IEC's device using Christopoulos by including the error rate of a communication channel to ISO/IEC's error correction encoding means in order to improve the performance of transmitting compressed images.

The limitation, as recited in claim 7, lines 1-2, "error correction encoding means", invoke 35 USC 112, 6th paragraph.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sanchez discloses a robust transmission of JPEG 2000 images over noisy channels.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
November 26 2007

JINGGE WU
SUPERVISORY PATENT EXAMINER